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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/921,446	08/01/2001	Denise L. Draper	337298001US1	6124
22434	7590	01/18/2007		
BEYER WEAVER LLP P.O. BOX 70250 OAKLAND, CA 94612-0250			EXAMINER TO, BAOQUOC N	
			ART UNIT	PAPER NUMBER
			2162	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/921,446

Applicant(s)

DRAPER ET AL.

Examiner

Baoquoc N. To

Art Unit

2162

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-32,38,40,43,44,46,47 and 51-53 is/are pending in the application.
- 4a) Of the above claim(s) 9-12,36,42,45 and 48-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-32,38,40,43,44,46,47 and 51-53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 9-32, 36, 38, 40 and 42-53 are pending in this application.

***Election/Restrictions***

2. The applicant traversed the Restriction Requirement on 07/18/2006 has been considered and the Restriction is withdraw and claims 9-32, 36, 38, 40 and 42-53 are pending in this application.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**MPEP 2106 IV. B.2. (b)**

A claim that requires one or more acts to be performed defines a process.

However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts.

a) "USEFUL RESULT" MPEP 2106

For an invention to be "useful" it must satisfy the utility requirement of section 101. The USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible. MPEP § 2107 and *Fisher*, 421 F.3d at 1372, 76 USPQ2d at 1230 (citing the Utility Guidelines with approval for interpretation of "specific" and "substantial"). In addition, when the examiner has reason to believe that the claim is not for a practical application that produces a useful result, the claim should be rejected, thus requiring the applicant to distinguish the claim from the three 35 U.S.C. 101 judicial exceptions to patentable subject matter by specifically reciting in the claim the practical application. In such cases, statements in the specification describing a practical application may not be sufficient to satisfy the requirements for section 101 with respect to the claimed invention. Likewise, a claim that can be read so broadly as to include statutory and nonstatutory subject matter must be amended to limit the claim to a practical application. In other words, if the specification discloses a practical application of a section 101 judicial exception, but the claim is broader than the disclosure such that it does not require a practical application, then the claim must be rejected.

3. Claims 9-32, 36, 38, 42-53 in view of the above cited MPEP section, are not statutory because claims they merely recite computing steps without producing any concrete and useful result and/or being limited to a practical application within the technological arts. Claims 9-32, 36, 38, 42-53 recites step which do not produce any useful results. Claims 9-12, 14, 36, 42 45 and 48-49 are direct data structure which is non-function descriptive material and software pro se. The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they

Art Unit: 2162

fail to fall within a statutory category. They are, at best, functional descriptive material *per se*. Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994). Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer").

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 9-32, 36, 38, 42-53, 15-32, 38, 40, 43-44, 46-47 and 51-53 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Identify a type value associated with each of the plurality of rows of the data structure, each type indicating columns of the data structure associated with the corresponding row.....the specification does not disclose of identifying a type of value and how on each type of value indicating column of the data structure associated with the corresponding rows. At most the specification in pages 4-6 which discloses a data structure having row with

Art Unit: 2162

different schema (examiner emphasis different length) and each column is either a primitive or nest NCR (examiner emphasis Primary and foreign)..." there is no type of value indicating columns of the data structure and there is no teaching of how to make and use the invention by one ordinary skill in the art.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 9-32, 36, 38, 42-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Since there are no disclosure or teaching of how to make and use the invention by ordinary skill in the art, the claimed invention as being interpreted as a datable having rows having different columns value and columns including primary column and foreign columns is a nested column.

6. Claims 15-31, 38, 40, 43-44, 46-47 are 51-53 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: creating step because the pre-ample states creating a data structure and the body of the claims only identifying..., storing the type value..., storing data.. and retrieving data from one or more...

***Response to Arguments***

7. Applicant's arguments filed 10/07/2006 have been fully considered but they are not persuasive.

Applicant argues "Drapper neither discloses or suggests a type value, a claimed. Specifically, Drapper neither discloses nor suggests a type column for storing type values, or storing a type value associated with each of the plurality of rows of a data structure in a type column, where the type value identifies columns of the data structure associated with the corresponding row, thereby enabling the columns for each of the plurality of rows to vary based upon the type value for that row."

The examiner respectfully disagrees with the above argument. Drapper discloses the fig. 3, with col. A-id, B-id, C-id, C-data, D-id, D-data, E-id and G-id which indicates the type of columns having the type value associated with the plurality of rows in a single data structure as table 62, where each of the columns e.g. col. A-id, B-id, C-id, C-data, D-id, D-data, E-id and G-id associated with each rows in table 62, thereby each column of each row have different values. Although, fig. 3 in Drapper discloses additional tables such as 64, 66, and 68; however, these table the sub tables or nested table derived from the foreign key in the tables 62. Therefore, there is not a different in comparison between the claimed limitation and the table 62.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 9-32, 36, 38, 42-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Draper et al. (US. Patent No. 6,581,062 B1).

Regarding on claims 9, 15 and 24, Draper teaches a computer-readable medium containing a data structure, the data structure having rows and column, the data structure comprising: a plurality of rows (table 62) (col. 4, lines 32-34); and a type column adapted to storing a type value associated with each of the plurality of rows of the data structure, each type value indicating columns of the data structure associated with the corresponding row, thereby enabling the columns for each of the plurality of rows to vary based on the type value for that row, wherein the type column is separate from the columns identified by each type value stored in the type column (FIG. 3 illustrated a structured organization for storing the semi-structured data of FIG. 2a-2b, in accordance with one embodiment. As illustrated, structured organization 52' include four relational tables 62-68. Table 62 includes one column each for storing identifiers of entities A, B, C, D, E and G, and data for entities C and D wherein the relational table includes rows which identified the columns in the same tables) (coll. 4, lines 29-43)



Regarding on claim 10, Draper teaches the computer-readable medium recited in claim 36 wherein a sub-column of one of the sub-rows of the nested data structure includes a further nested data structure (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claim 11, Draper teaches the computer-readable medium recited in claim 9, wherein the data structure is a nested conditional relation data structure (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claim 12, Draper teaches the computer-readable medium recited in claim 33 wherein at least two rows of the data structure contain different type values in the type column (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claim 13, Draper teaches the computer-readable medium of claim 37 wherein at least two sub-rows of the nested data structure contain different type values in the type sub-column.

Regarding on claim 14, Draper teaches the computer-readable medium of claim 9 wherein the type value for each of the plurality of rows identifies a schema for a type (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claims 33, Draper teaches the computer-readable medium as recited in claim 9, the data structure comprising a type column for storing the type value for the display of rows (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claim 36, Draper teaches the computer-readable medium of claim 9, the data structure further comprising:

A nested data structure, the nested data structure including sub-rows and sub-column, each of the sub-rows having a type value identifying a set of one or more sub-

Art Unit: 2162

columns of the nested data structure associated with the corresponding sub-row, thereby enabling the set of sub-column for each of the plurality of sub-rows to vary based upon the type value for that sub-row (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claim 42, Drapper teaches the computer-readable medium as recited in claim 9, wherein the type value associated with each of the plurality of rows identifies a row type for the corresponding row (table 62) (col. 4, lines 32-34).

Regarding on claim 48, Drapper teaches the computer-readable medium as recited in claim 9, wherein data is stored in the columns for each of the plurality of rows, thereby enabling the data to be retrieved from the columns indicated by the by the type value for that row (table 62) (col. 4, lines 32-34).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 15-32, 38, 40, 43-44 and 46-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Draper et al. (US. Patent No. 6,581,062 B1) in view of Crus et al. (US. Patent No. 4,947,320).

Regarding on claims 15 and 24, Draper teaches a method in computer system for creating a data structure, the data structure having rows and column, the data structure comprising:

Identifying a type value associated with each of plurality of rows of the data structure (table 62) (col. 4, lines 32-34), each type value indicating columns of the data structure associated with the corresponding rows (the A-id, B-id... are columns storing values for rows) (col. 4, lines 35-40);

Storing the type value for each of the plurality of rows of the data structure in a type column of the data structure, thereby enabling the columns for each of the plurality of rows to vary based upon the type value for that row, wherein the type column is separate from the columns identified by the type values stored in the type column (FIG. 3 illustrated a structured organization for storing the semi-structured data of FIG. 2a-2b, in accordance with one embodiment. As illustrated, structured organization 52' include four relational tables 62-68. Table 62 includes one column each for storing identifiers of entities A, B, C, D, E and G, and data for entities C and D wherein the relational table includes rows which identified the columns in the same tables) (coll. 4, lines 29-43);

Storing data in the columns for each of the plurality of rows (col. 4, lines 40-42);  
and

and retrieving data from one or more of the plurality of rows of the data structure, where the retrieved data is obtained from one or more of the columns indicated by the type value for that row (retrieve information defined by semi-structure data) (col. 1, lines 64-65)

Drapper does not explicitly teach thereby enabling the columns for each of the plurality of rows to vary based upon the type of value for that row; However, Crus et al. discloses table project have records in which some of the records have a null foreign key project fig. 5 which indicates the recited claim claimed limitation "thereby enabling the columns for each of the plurality of row to vary based on the type of value for that row. Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Drapper to include null a value to the record having non-value column as taught to by Crus in order to maintain data integrity in the database management system.

Claim 49 is rejected under the same reason as to claim 15.

Claim 50 is rejected under the same reason as to claim 15.

Regarding on claims 17 and 26, Draper teaches the method recited in claim 15, wherein the data structure is a nested conditional relation data structure (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claims 18 and 27, Draper teaches the method recited in claim 15 wherein at least two rows of the data structure contain different type values in the type column (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claims 19 and 28, Draper teaches the method recited claim 38 wherein at least two sub-rows of the nested data structure contain different type values in the type sub-column.

Regarding on claims 20 and 29, Draper teaches the method recited claim 15 wherein the type value for each of the plurality of rows identifies a schema for a type (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claims 21 and 30, Draper teaches the method recited in claim 15 and 30 including:

Providing a data store in a first format (col. 9, lines 51-65);

Providing a mapping of the first format to a second format (col. 9, lines 51-65);

Receiving a query for a data store based on the second format (col. 9, lines 51-65);

Generating a query based on the first format using the received query and the providing mapping (col. 9, lines 51-65); and

Executing the generated query based on the first format against the provided data store in the first format to generate data wherein the generated data is stored in the created data structure (col. 9, lines 51-65).

Regarding on claims 38 and 40, Draper teaches the method recited of claim 15, the data structure further comprising:

A nested data structure, the nested data structure including sub-rows and sub-column, each of the sub-rows having a type value identifying a set of one or more sub-columns of the nested data structure associated with the corresponding sub-row, thereby enabling the set of sub-column for each of the plurality of sub-rows to vary based upon the type value for that sub-row (table 64 includes one column each for storing identifiers for entity E, F and data for entities F, whereas table 66 includes one column each for entities F. Similarly, table 68 includes one column each for storing identifiers for entities A, H and I, and data for entity I" (col. 4, lines 33-43).

Regarding on claims 16 and 25, Drapper teaches the method of claim 38 wherein a sub-column of a sub-row of the nested data structure includes nested data structure (fig. 3.)

Regarding on claims 22 and 31, Draper teaches the method recited in claims 21 and 31 including the data of the created data structure into data in the second format (col. 9, lines 51-65).

Regarding on claims 23 and 32, Draper teaches the method recited in claim 21 and 30 wherein the second format is an XML format (col. 9, lines 51-65).

Regarding on claims 43-44, Drapper teaches the method of claim 15, wherein the type value for each of the plurality of rows identifies a row type for the corresponding row (fig. 3).

Regarding on claim 46-47, Drapper teaches method of recited in claim 15, wherein the type values stored in the type column are not data element and the column identified by the type of values are adapted for storing data elements (fig. 3).

Regarding on claim 51, Drapper teaches the method recited in claim 15, wherein the data stored in each of the column is a primitive type or a nested conditional relation (primary key or foreign key) (fig. 3).

Regarding on claim 52, Drapper teaches the method recited in claim 17, further comprising: converting first data from a first data format to a nested conditional relation prior to storing the data (col. 9, lines 51-65); wherein storing the data includes the converted first data (col. 1, lines 63-65).

Regarding on claim 53, Drapper teaches the method recited in claim 52, further comprising: converting second data format from a second format to a nested conditional prior to storing the data (col. 9, lines 51-65); wherein the data further includes storing the converted second data (col. 1, lines 63-65).

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is at 571-272-



Art Unit: 2162

4041 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at 571-272-4107.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231.

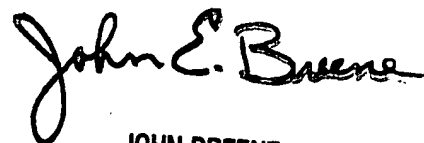
The fax numbers for the organization where this application or proceeding is assigned are as follow:

(571) –273-8300

[Official Communication]

BQ To

January 9th, 2006



JOHN BREENE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100